



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/032,867

10/22/2001

Csaba Truckai

SRX-011

7410

7590

09/28/2004

Csaba Truckai
19566 Arden Court
Saratoga, CA 95070

EXAMINER

ROANE, AARON F

ART UNIT

PAPER NUMBER

3739

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,867

Applicant(s)

TRUCKAI ET AL.

Examiner

Aaron Roane

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 18, 20-22 and 49-52 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 11-14, 18, 20-22 and 49-51 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/17/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

As previously noted in the first Non-Final rejection mailed on 11/06/2003 Applicant's election without traverse of Species #2 in Paper No. 4 is acknowledged.

Furthermore, Applicant states that claims 1-7, 11-16, 18-33, 35, 39-43, 47 and 48 are directed to species #2. However, claims 6, 7, 15, 16, 24, 25, 31, 32, 33 and 40-43 are directed to a non-elected species. Species #2 is characterized by the Type "B" embodiment detailed in the specification, claims 6, 7, 15, 16, 24, 25, 31, 32, 33 and 40-43 are directed to and detailed in the sections regarding Types C-F. Therefore, claims 6, 7, 15, 16, 24, 25, 31, 32, 33 and 40-43 will also be withdrawn from further consideration and only claims 1-5, 11-14, 18-23, 26-30, 35, 39, 47 and 48 will be examined.

Additionally, claims 15-17, 19 and 23-48 have been cancelled while new claims 49-52 have been added and will be examined. Therefore, claims 1-5, 11-14, 18, 20-22 and 49-52 will be examined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goble et al. (USPN 5,451,224) in view of Kirwan, Jr. (USPN 6,298,550 B1).

Regarding claims 1 and 18, Goble et al. disclose an electrosurgical forceps and method of use comprising paired first and second jaw members (both 40) movable between an open position and a closed position, at least one jaw member including a first body portion comprising an electrically conductive material having a temperature sensitive variable resistance for responding to the temperature of the tissue; and a second body portion (44) of conductive material coupled to an RF voltage source (block diagram of figure 6), see col. 8, line 46 through col. 9, line 64 and figures 4-6. Goble et al. disclose the step of engaging tissue between the paired jaws, and the step of delivering RF energy to said the second body portion and the electrode to cause ohmic heating in the tissue, wherein energy application to said tissue is modulated by changes in resistance of said first body portion (this is inherent since the resistance changes as temperature increases which in turn changes the current which effects the energy delivered to the tissue), see col. 5, lines

Art Unit: 3739

7-29. Goble et al. fail to disclose an electrode, wherein the first body portion is located between the electrode and the second body portion. It is very well known in the art to provide electrically conductive coatings/layers for forceps device that provide both biocompatibility and a non-stick surface. Kirwan, Jr. discloses electrosurgical forceps device and teaches providing the tissue contacting surface of the jaw members (23) with an electrically conductive layer/coating of nickel (32) in order to provide a "more biocompatible with human tissue" as well as providing a non-stick surface, see col. 1, line 51 through col. 2, line 28, col. 1-6 in general and figures 1-6. This coating/layer of nickel is interpreted as the electrode and therefore the first body portion is located between the second body portion and the electrode. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Goble et al., as is well known in the art and taught by Kirwan, Jr., to provide the tissue contacting surface of the jaw members with an electrically conductive layer/coating of nickel in order to provide a "more biocompatible with human tissue" as well as providing a non-stick surface.

Regarding claims 5 and 12, Goble et al. disclose that the first body portion is a ceramic in the form of silicon carbide which is an NTC material, see col. 8, line 46 through col. 9, line 64 and figures 4-6.

Claims 11, 13, 14 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Goble et al. (USPN 5,451,224) in view of Kirwan, Jr. (USPN 6,298,550 B1) as applied to

Art Unit: 3739

claims 1 and 18 above, and further in view of Yates (USPN 5,716,366) and still in further view of Wallstén (USPN 5,571,153).

Regarding claim 11, Goble et al. in view of Kirwan, Jr. disclose the claimed invention except for disclosing that the first body portion is a PTC material. It is well known in the art to use variable resistance material in either an NTC or PTC form. Yates discloses a device very similar to the one disclosed by Yates et al. in design and intent and teaches that a body portion (39) maybe constructed from a negative/positive temperature coefficient (NTC or PTC) material as an alternative hemostatic means, see col. 1, line 47 through col. 2, line 34, col. 3, lines 44-59 and figures 1-4 and 14-16. Yates also discloses and teaches the use of either NTC or PTC material body portions depending on the desired effect. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Goble et al. in view of Kirwan, Jr., as taught by Yates, to use NTC or PTC material in the forceps jaw member depending on the desired effect.

Regarding claims 13, 14 and 20-22 Yates et al. in view of Yates disclose the claimed invention except for disclosing that the PTC material has a switching range (or Curie point) between 40° C to 200° C, and that the resistance varies by greater than 5% when the temperature changes by 5%. It is well known in the art to use variable resistance material in either an NTC or PTC form. Yates discloses a device very similar to the one disclosed by Yates et al. in design and intent and teaches that a body portion (39) maybe

Art Unit: 3739

constructed from a negative/positive temperature coefficient (NTC or PTC) material as an alternative hemostatic means, see col. 1, line 47 through col. 2, line 34, col. 3, lines 44-59 and figures 1-4 and 14-16. Yates also discloses and teaches the use of either NTC or PTC material body portions depending on the desired effect. Wallstén discloses a hyperthermia treatment device with a PTC-type heat self-regulating element having a Curie point and teach that a suitable PTC-type material has a 70° C Curie point, see col. 8, lines 28-33. Furthermore, Wallstén also disclose that PTC-type material exhibit 20%-30% increase in resistance per degree (increase) in temperature is known in the art, see col. 3, lines 17-27 and figure 6. It should be noted that as the resistance of PTC material increases from roughly 10 ohms to over 10,000 ohms the current is substantially terminated, which in turn reduces the ohmic heating of the tissue. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Goble et al. in view of Kirwan, Jr., as taught by Yates, to use NTC or PTC material in the forceps jaw member depending on the desired effect, and still as further taught by Wallstén, to use a PTC-type material that has a 70° C Curie point and exhibits 20%-30% increase in resistance per degree (increase) in temperature in order to self regulate or self control heating.

Claims 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goble et al. (USPN 5,451,224) in view of Yates (USPN 5,716,366) and in further view of Wallstén (USPN 5,571,153)).

Regarding claims 49-51 Goble et al. disclose an electrosurgical forceps and method of use comprising paired first and second jaw members (both 40) movable between an open position and a closed position, at least one jaw member including a first body portion comprising an electrically conductive material having a temperature sensitive variable resistance for responding to the temperature of the tissue; and a second body portion in the form of a conductor (44) of conductive material coupled to an RF voltage source (block diagram of figure 6), see col. 8, line 46 through col. 9, line 64 and figures 4-6.

Goble et al. disclose the step of engaging tissue between the paired jaws, and the step of delivering RF energy to said the second body portion and the electrode to cause ohmic heating in the tissue, wherein energy application to said tissue is modulated by changes in resistance of said first body portion (this is inherent since the resistance changes as temperature increases which in turn changes the current which effects the energy delivered to the tissue), see col. 5, lines 7-29. Goble et al. fail to disclose that a PTC material has a switching range (or Curie point) between 40° C to 200° C, and that the resistance varies by greater than 5% when the temperature changes by 5%. It is well known in the art to use variable resistance material in either an NTC or PTC form. Yates discloses a device very similar to the one disclosed by Yates et al. in design and intent and teaches that a body portion (39) maybe constructed from a negative/positive temperature coefficient (NTC or PTC) material as an alternative hemostatic means, see col. 1, line 47 through col. 2, line 34, col. 3, lines 44-59 and figures 1-4 and 14-16. Yates also discloses and teaches the use of either NTC or PTC material body portions depending on the desired effect. Wallstén discloses a hyperthermia treatment device with

a PTC-type heat self-regulating element having a Curie point and teach that a suitable PTC-type material has a 70° C Curie point, see col. 8, lines 28-33. Furthermore, Wallstén also disclose that PTC-type material exhibit 20%-30% increase in resistance per degree (increase) in temperature is known in the art, see col. 3, lines 17-27 and figure 6. It should be noted that as the resistance of PTC material increases from roughly 10 ohms to over 10,000 ohms the current is substantially terminated, which in turn reduces the ohmic heating of the tissue. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Goble et al., as taught by Yates, to use NTC or PTC material in the forceps jaw member depending on the desired effect, and as further taught by Wallstén, to use a PTC-type material that has a 70° C Curie point and exhibits 20%-30% increase in resistance per degree (increase) in temperature in order to self regulate or self control heating.

Allowable Subject Matter

Claims 2-4 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

The examiner acknowledges the amendments to the claims. The examiner wishes to reemphasize the initial election of species and to the particular claims that are drawn to that species.

The examiner has applied new art. It is clearly shown by the prior art that if the subject matter of claims 2, 3 or 4 were incorporated into claims, 1, 18 and 49 the case would be allowable.

This office action is Non-Final.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Roane whose telephone number is (703) 305-7377. The examiner can normally be reached on 9am - 5pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3739

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.R. *A.R.*
June 1, 2004

Roy D. Gibson
ROY D. GIBSON
PRIMARY EXAMINER